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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/597,415	10/31/2006	Makoto Kurosawa	P30309	1744

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EXAMINER	
NGUYEN, HOAI AN D	
ART UNIT	PAPER NUMBER
2831	

NOTIFICATION DATE	DELIVERY MODE
03/19/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

gbpatent@gbpatent.com
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Office Action Summary	Application No.	Applicant(s)	
	10/597,415	KUROSAWA ET AL.	
	Examiner	Art Unit	
	HOAI-AN D. NGUYEN	2858	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *7/25/06 (the preliminary amendment)*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3,5,8,9 and 12-17* is/are rejected.

7)☒ Claim(s) *4,6,7,10,11 and 18-20* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *25 July 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☒ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *11/16/06*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Receipt is acknowledged of the Preliminary Amendment filed on July 25, 2006. Claims 1-20 are pending in the application.

Specification

2. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

3. The abstract of the disclosure is objected to because it contains more than 150 words. Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 101

4. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

5. Claim 16 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

This claim is drawn to a computer program per se. A computer program per se is abstract instructions. Therefore, a computer program is not a physical thing (product) nor a process as they are not "acts" being performed. As such, this claim is not directed to one of the statutory categories of invention (See MPEP 2106.01), but is directed to nonstatutory functional descriptive material.

It is noted that computer programs embodied on a computer readable medium or other structure, which would permit the functionality of the program to be realized, would be directed to a product and be within a statutory category of invention, so long as the computer readable medium is not disclosed as non-statutory subject matter per se (signals or carrier waves).

Double Patenting

6. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225

USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

7. Claims 1-3, 5, 8, 9, 12-15 and 17 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-11 of U.S. Patent No. 7,323,883 B2 issued to Nakada. Although the conflicting claims are not identical, they are not patentably distinct from each other.

Nakada teaches a phase measurement device (FIG. 1, phase measurement device 1) that measures an output from a circuit (FIG. 1, amplifier (circuit to be measured) 20) to be measured upon feeding an input signal having at least two input frequency components to the circuit to be measured, comprising a phase acquisition section (FIG. 1, phase acquisition section 40) that acquires phases of the input frequency components and a distortion component based upon a local frequency, a match time measurer (FIG. 1, match time/phase measurement section 50) that measures a match time at which the phases of the input frequency components match each other

based upon an acquired result of the phase acquisition section, a distortion component phase measurer (FIG. 1, distortion component phase measurement section 60) that measures a phase of the distortion component at the match time based upon an acquired result of the phase acquisition section, and a display means (FIG. 1, display section 70) that displays a vector whose angle is the phase of the distortion component, and whose length is the amplitude of the distortion component; wherein the phase acquisition section (FIG. 1, phase acquisition section 40) comprises an orthogonal transformer (FIG. 1, orthogonal conversion section 30) that orthogonally transforms the output from the circuit to be measured by means of the local frequency, a phase acquirer (FIG. 1, phase acquisition section 40) that acquires the phases of the input frequency components and the distortion component in outputs from the orthogonal transformer, a discrete Fourier transformer (FIG. 1, complex FFT (Fast Fourier Transform) section 46) that carries out discrete Fourier transform (FIG. 1, orthogonal conversion section 30) (From column 3, line 39 to column 4, line 46; claims 1, 2, 5 and 7).

With regard to claims 1-3, 5, 8, 9, 12-15 and 17, these claims are directed to an apparatus whose features are further limited by functional languages. However, claims directed to an apparatus must be distinguished from the prior art in terms of structure rather than function alone (See MPEP 2114). The phase acquisition section (FIG. 1, phase acquisition section 40), the match time measurer (FIG. 1, match time/phase measurement section 50) and the distortion component phase measurer (FIG. 1, distortion component phase measurement section 60) are fully capable of performing functions as recited in claims 1-3, 5, 8, 9, 12-15 and 17, respectively (FIGS. 1-6; from column 3, line 39 to column 4, line 46; claims 1-11).

Allowable Subject Matter

8. Claims 4, 6, 7, 10, 11 and 18-20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

- The primary reason for the indication of the allowability of claim 4 is the inclusion therein, in combination as currently claimed, of the limitation of a local frequency setter that sets the local frequency, wherein the local frequency setter sets the local frequency both to an average of the lowest frequency of the distortion components and the highest frequency of the input frequency components, and to an average of the highest frequency of the distortion components and the lowest frequency of the input frequency components. This limitation is found in claim 4 is neither disclosed nor taught by the prior art of record, alone or in combination.
- The primary reason for the indication of the allowability of claims 6 and 18 is the inclusion therein, in combination as currently claimed, of the limitation of a local frequency setter setting means that sets the local frequency, wherein the local frequency .setter setting means sets the local frequency to an average of the lowest frequency and the highest frequency of the input frequency components, to an average of the lowest frequency of the distortion component and the lowest frequency of the input frequency component, and to an average of the highest frequency of the distortion component and the highest frequency of the input

frequency component. This limitation is found in claims 6 and 18 is neither disclosed nor taught by the prior art of record, alone or in combination.

- The primary reason for the indication of the allowability of claim 7 is the inclusion therein, in combination as currently claimed, of the limitation of a phase change quantity acquirer that acquires a phase change quantity of the highest frequency component or the lowest frequency component of the input frequency components which has changed due to a change of the components for which the phase acquisition section acquires the phases each time of the change, and a distortion component phase compensator that corrects the measurement result of the distortion component phase measurer based upon the phase change quantity. This limitation is found in claim 7 is neither disclosed nor taught by the prior art of record, alone or in combination.
- The primary reason for the indication of the allowability of claim 10 is the inclusion therein, in combination as currently claimed, of the limitation of a local frequency setter that sets the local frequency, wherein, upon the phase acquisition, the local frequency setter sets the local frequency to an average value of the maximum value and the minimum value of the frequency of the signals for which the phases are acquired. This limitation is found in claim 10 is neither disclosed nor taught by the prior art of record, alone or in combination.
- The primary reason for the indication of the allowability of claim 11 is the inclusion therein, in combination as currently claimed, of the limitation of a phase change quantity acquirer that acquires a phase change quantity of a distortion

component which has changed due to a change of the components for which the phase acquisition section acquires the phases each time of the change, and a distortion component phase compensator that corrects the measurement result of the distortion component phase measurer based upon the phase change quantity. This limitation is found in claim 11 is neither disclosed nor taught by the prior art of record, alone or in combination.

- The primary reason for the indication of the allowability of claim 19 is the inclusion therein, in combination as currently claimed, of the limitation of a local frequency setter that sets the local frequency, wherein, upon the phase acquisition, the local frequency setter sets the local frequency to an average value of the maximum value and the minimum value of the frequency of the signals for which the phases are acquired. This limitation is found in claim 19 is neither disclosed nor taught by the prior art of record, alone or in combination.
- The primary reason for the indication of the allowability of claim 20 is the inclusion therein, in combination as currently claimed, of the limitation of a phase change quantity acquirer that acquires a phase change quantity of a distortion component which has changed due to a change of the components for which the phase acquisition section acquires the phases each time of the change, and a distortion component phase compensator that corrects the measurement result of the distortion component phase measurer based upon the phase change quantity. This limitation is found in claim 20 is neither disclosed nor taught by the prior art of record, alone or in combination.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Applicant's attention is invited to the followings whose inventions disclose similar devices.

- Noland et al. (US 2,929,987 A) teaches a system for measuring differential phase delay in electrical apparatus.
- Besson (US 5,218,289 A) teaches an electronic device for the measurement of time lags.
- Hanke, III et al. (US 5,376,848 A) teaches a delay matching circuit.
- Cabot (US 5,649,304 A) teaches a method and apparatus for communicating auxiliary information in a measurement signal.

CONTACT INFORMATION

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HOAI-AN D. NGUYEN whose telephone number is (571) 272-2170. The examiner can normally be reached on M-F (8:00 - 5:30) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diego Gutierrez can be reached on (571) 272-2245. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Hoai-An D. Nguyen
Patent Examiner
Art Unit 2858

/HADN/